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November 4, 1997

TOWNSEND and TOWNSEND and CREW LLP

By Michelle Chan

PATENT

Attorney Docket No. 17957-000110US

**COPY**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)	
DAVID A. RUDDY et al.	)	Examiner: Unknown
Application No.: 08/852,495	)	Art Unit:
Filed: May 5, 1997	)	INFORMATION DISCLOSURE
For: POLYMORPHISMS IN THE REGION	)	STATEMENT UNDER
OF THE HUMAN	)	<u>37 CFR §1.97 and §1.98</u>
HEMOCHROMATOSIS GENE	)	

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

The references cited on attached form PTO-1449 are being called to the attention of the Examiner. A copy of each is enclosed.

It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action. However, if a fee is required, the Commissioner is authorized to charge such fee to Deposit Account

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PATENT

No. 20-1430. Please charge any additional fees or credit any overpayment to the above-noted Deposit Account.

Respectfully submitted,



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Attorney Docket No.  
17957-000110USSerial No.:  
08/852,495LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT  
(Use several sheets if necessary)

Applicant: DAVID A. RUDDY et al.

Filing Date: 5/5/97

Group:

## Reference Designation

## U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub-class	Filing Date (If Appropriate)
AA	4,511,503	04/16/85	Olson et al.	C07G	7/00	

## FOREIGN PATENT DOCUMENTS

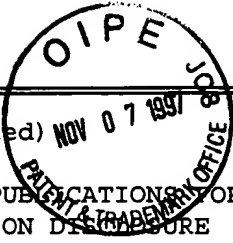
	Document No.	Date	Country	Class	Sub-class	Translation (yes/no)
AA	WO 96/06583	03/07/96	WIPO	A61F	9/00	No
AC	WO 96/35802	11/14/96	WIPO	C12P	19/34	No

## OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

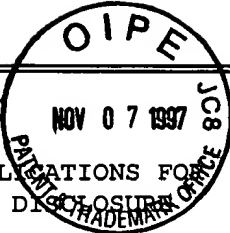
AD	Abravaya, K. et al., "Detection of point mutations with a modified ligase chain reaction (Gap-LCR)," <u>Nucl. Acids Res.</u> 23(4):675-682 (1995)					
AE	Adams, M.D. et al., "Complementary DNA Sequencing: Expressed Sequence Tags and Human Genome Project," <u>Science</u> 252:1651-1656 (1991)					
AF	Amadou, C. et al., "Localization of New Genes and Markers to the Distal Part of the Human Major Histocompatibility Complex (MHC) Region and Comparison with the Mouse: New Insights into the Evolution of Mammalian Genomes," <u>Genomics</u> 26:9-20 (1995)					
AG	Anderson, J.R. et al., "Precipitating Autoantibodies in Sjögren's Disease," <u>Lancet</u> 2:456-460 (1961)					
AH	Bacon, B.R., "Causes of Iron Overload," <u>N. Engl. J. Med.</u> 326(2):126-127 (1992)					
AI	Barany, F., "Genetic disease detection and DNA amplification using cloned thermostable ligase," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 88:189-193 (1991)					
AJ	Balan, V. et al., "Screening for Hemochromatosis: A Cost-Effectiveness Study Based on 12,258 Patients," <u>Gastroenterology</u> 107:453-459 (1994)					
AK	Barton, J.C. et al., "Hemochromatosis: The genetic disorder of the twenty-first century," <u>Nature Medicine</u> 2:394-395 (1996)					
AL	Beaucage, S.L. et al., "Deoxynucleoside Phosphoarmidites-A New Class of Key Intermediates for Deoxypolynucleotide Synthesis," <u>Tetrahedron Letters</u> 22(20):1859-1862 (1981)					
AM	Beggs, J.D., "Transformation of yeast by replicating hybrid plasmid," <u>Nature</u> 275:104-109 (1978)					
AN	Benton, W.D. et al., "Screening $\lambda$ gt Recombinant Clones by Hybridization to Single Plaques in situ," <u>Science</u> 196:180-182 (1977)					
AO	Botstein, D. et al., "Sterile Host Yeast (SHY): A Eukaryotic System of Biological Containment for Recombinant DNA Experiments," <u>Gene</u> 8:17-24 (1979)					

FORM PTO-1449 (Modified)		Attorney Docket No. 17957-000110US	Serial No.: 08/852,495
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: DAVID A. RUDDY et al.	
		Filing Date: 5/5/97	Group:
___ AP	Broach, J.R. et al., "Transformation in Yeast: Development of a Hybrid Cloning Vector and Isolation of the CAN1 Gene," <u>Gene</u> 8:121-133 (1979)		
___ AQ	Chong, S.S. et al., "Molecular Cloning of the cDNA Encoding a Human Renal Sodium Phosphate Transport Protein and Its Assignment to Chromosome 6p21.3-p23," <u>Genomics</u> 18:355-359 (1993)		
___ AR	Cotton, R.G.H. et al., "Reactivity of cytosine and thymine in single-base-pair mismatches with hydroxylamine and osmium tetroxide and its application to the study of mutations," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 85:4397-4401 (1988)		
___ AS	Church, D.M. et al., "Isolation of genes from complex sources of mammalian genomic DNA using exon amplification," <u>Nature Genetics</u> 6:98-105 (1994)		
___ AT	Clark, G. et al., "Characterization of a soluble cytoplasmic antigen reactive with sera from patients with systemic lupus erythmatosus," <u>J. Immunol.</u> 102(1):117-122 (1969)		
___ AU	Dausset, J. et al., "Centre d'Etude du Polymorphisme Humain (CEPH): Collaborative Genetic Mapping of the Human Genome," <u>Genomics</u> 6:575-577 (1990)		
___ AV	Edwards, C.Q. et al., "Screening for Hemochromatosis," <u>N. Engl. J. Med.</u> 328(22):1616-1620 (1993)		
___ AW	Faham, M. et al., "A Novel In Vivo Method to Detect DNA Sequence Variation," <u>Genome Res.</u> 5:474-482 (1995)		
___ AX	Fahy, E. et al., "Self-sustained Sequence Replication (3SR): An Isothermal Transcription-based Amplification System Alternative to PCR," <u>PCR Methods Appl.</u> 1:25-33 (1992)		
___ AY	Feder, J.N. et al., "A novel MHC class I-like gene is mutated in patients with hereditary haemochromatosis," <u>Nature Genetics</u> 13:399-406 (1996)		
___ AZ	Finch, C.A., "Hemochromatosis—Treatment is Easy, Diagnosis Hard," <u>West. J. Med.</u> 153:323-325 (1990)		
___ BA	Fischer, S.G. et al., "DNA fragments differing by single base-pair substitutions are separated in denaturing gradient gels: Correspondence with melting theory," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 80:1579-1583 (1983)		
___ BB	Freemont, P.S. et al., "A Novel Cysteine-Rich Sequence Motif," <u>Cell</u> 64:483-484 (1991)		
___ BC	Grunstein, M. et al., "Colony hybridization: A method for the isolation of cloned DNAs that contain a specific gene," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 72(10):3961-3965 (1975)		
___ BD	Gubler, U. et al., "A simple and very efficient method for generating cDNA libraries," <u>Gene</u> 25:263-269 (1983)		
___ BE	Gyapay, G. et al., "The 1993-94 Généthon human genetic linkage map," <u>Nature Genetics</u> 7:246-339 (1994)		
___ BF	Herskowitz, I. et al., "The lysis-lysogeny decision of phage λ: explicit programming and responsiveness," <u>Ann. Rev. Genet.</u> 14:399-445 (1980)		

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		Filing Date: 5/5/97	Group:
___ BG	Hinnen, A. et al., "Transformation of yeast," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 75(4):1929-1933 (1978)		
___ BH	Ito, H. et al., "Transformation of intact Yeast Cells Treated with Alkali Cations," <u>J. Bacteriol.</u> 153(1):163-168 (1983)		
___ BI	Jazwinska, E.C. et al., "Localization of the Hemochromatosis gene Close to D6S105," <u>Am. J. Hum. Genet.</u> 53:347-352 (1993)		
___ BJ	Jazwinska, E.C. et al., "Haplotype Analysis in Australian Hemochromatosis Patients: Evidence for a Predominant Ancestral Haplotype Exclusively Associated with Hemochromatosis," <u>Am. J. Hum. Genet.</u> 56:428-433 (1995)		
___ BK	Jack, L.J.W. et al., "Cloning and Analysis of cDNA Encoding Bovine Butyrophilin, an Apical Glycoprotein Expressed in Mammary Tissue and Secreted in Association with the Milk-fat Globule Membrane during Lactation," <u>J. Biol. Chem.</u> 265(24):14481-14486 (1990)		
___ BL	Kan, Y.W. et al., "Antenatal Diagnosis of Sickle-Cell Anaemia by D.N.A. Analysis of Amniotic-Fluid Cells," <u>Lancet</u> ii:910-912 (1978)		
___ BM	Landegren, U. et al., "A Ligase-Mediated Gene Detection Technique," <u>Science</u> 241:1077-1080 (1988)		
___ BN	Levy-Lahad, E. et al., "Chandidate Gene for the Chromosome 1 Familian Alzheimer's Disease," <u>Science</u> 269:973-977 (1995)		
___ BO	Lovett, M. et al., "Direct selection: A method for the isolation of cDNAs encoded by large genomic regions," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 88:9628-9632 (1991)		
___ BP	Maskos, U. et al., "A novel method for the parallel analysis of multiple mutations in multiple samples," <u>Nucl. Acids Res.</u> 21(9):2269-2270 (1993)		
___ BQ	Matteucci, M.D. et al., "Synthesis of Deoxyoligonucleotides on a Polymer Support," <u>J. Am. Chem. Soc.</u> 103:3185-3191 (1981)		
___ BR	Maxam, A.M. et al., "Sequencing End-Labeled DNA with Base-Specific Chemical Cleavages," <u>Meth. Enzymol.</u> 65:499-560 (1980)		
___ BS	Miller, M.M. et al., "Immunoglobulin variable-region-like domains of diverse sequence within the major hitocompatibility complex of the chicken," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 88:4377-4381 (1991)		
___ BT	Myers, R.M. et al., "Detection of Single Base-Substitutions by Ribonuclease Cleavage at Mismatches in RNA:DNA Duplexes," <u>Science</u> 230:1242-1246 (1985)		
___ BU	Needham-VanDevanter, D.R. et al., "Characterization of an adduct between CC-1065 and a defined oligondeoxynucleotide duplex," <u>Nucl. Acids. Res.</u> 12:6159-6168 (1984)		
___ BV	Needleman, S.B. et al., "A General Method Applicable to the Search for Similarities in the Amino Acid Sequence of Two Proteins," <u>J. Mol. Biol.</u> 48:443-453 (1970)		



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		Filing Date: 5/5/97	Group:
___ BW	Newton, C.R. et al., "Analysis of any point mutation in DNA. The amplification refractory mutation system (ARMS)," <u>Nucl. Acids Res.</u> 17(7):2503-2516 (1989)		
___ BX	Nikiforov, T.T., et al., "Genetic Bit Analysis: a solid phase method for typing single nucleotide polymorphisms," <u>Nucl. Acids Res.</u> 22(20):4167-4175 (1994)		
___ BY	Orita, M. et al., "Rapid and Sensitive Detection of Point Mutations and DNA Polymorphisms Using the Polymerase Chain Reaction," <u>Genomics</u> 5:874-879 (1989)		
___ BZ	Ørum, H. et al., "Single base pair mutation analysis by PNA directed PCR clamping," <u>Nucl. Acid Res.</u> 21(23):5332-5336 (1993)		
___ CA	Pearson, J.D. et al., "High-Performance Anion-Exchange Chromatography of Oligonucleotides," <u>J. Chromatography</u> 255:137-149 (1983)		
___ CB	Pearson, W.R. et al., "Improved tools for biological sequence comparison," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 85:2444-2448 (1988)		
___ CC	Phatak, P.D. et al., "Cost-effectiveness of Screening for Hereditary Hemochromatosis," <u>Arch. Intern. Med.</u> 154:769-776 (1994)		
___ CD	Queen, C. et al., "Cell-Type Specific Regulation of a $\kappa$ Immunoglobulin Gene by Promoter and Enhancer Elements," <u>Immunol. Res.</u> 89:49-68 (1986)		
___ CE	Raha-Chowdhury, R. et al., "New polymorphic microsatellite markers place the haemochromatosis gene telomeric to D6S105," <u>Hum. Mol. Genet.</u> 4(10):1869-1874 (1995)		
___ CF	Roberts, A.G. et al., "Increased frequency of the haemochromatosis Cys282Tyr mutation in sporadic porphyria cutanea tarda," <u>Lancet</u> 349:321-323 (1997)		
___ CG	Saiki, R.K. et al., "Primer-Directed Enzymatic Amplification of DNA with a Thermostable DNA Polymerase," <u>Science</u> 239:487-491 (1988)		
___ CH	Saiki, R.K. et al., "Genetic analysis of amplified DNA with immobilized sequence-specific oligonucleotide probes," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 86:6230-6234 (1989)		
___ CI	Schneider, I., "Cell lines derived from late embryonic stages of <i>Drosophila melanogaster</i> ," <u>J. Embryol. Exp. Morph.</u> 27(2):353-365 (1972)		
___ CJ	Simon, M. et al., "Association of HLA-A3 and HLA-B14 antigens with idiopathic haemochromatosis," <u>Gut</u> 17:3332-334 (1976)		
___ CK	Simon, M. et al., "A Study of 609 HLA Haplotypes Marking for the Hemochromatosis Gene: (1) Mapping of the Gene near the HLA-A Locus and Characters Required to Define a Heterozygous Population and (2) Hypothesis Concerning the Underlying Cause of Hemochromatosis-HLA Association," <u>Am. J. Hum. Genet.</u> 41:89-105 (1987)		
___ CL	Smith, T.F. et al., "Comparison of Biosequences," <u>Adv. Appl. Math.</u> 2:482-489 (1981)		
___ CM	Sprague, J. et al., "Expression of a Recombinant DNA Gene Coding for the Vesicular Stomatitis Virus Nucleocapsid Protein," <u>J. Virol.</u> 45(2):773-781 (1983)		

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___ CN	Stone, C. et al., "Isolation of CA dinucleotide repeats close to D6S105; linkage disequilibrium with haemochromatosis," <u>Hum. Mol. Genet.</u> 3(11):2043-2046 (1994)			
___ CO	Strathmann, M. et al., "Transposon-facilitated DNA sequencing," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 88:1247-1250 (1991)			
___ CP	Summers, K.M. et al., "HLA Determinants in an Australian Population of Hemochromatosis Patients and Their Families," <u>Am. J. Hum. Genet.</u> 45:41-48 (1989)			
___ CQ	Syvänen, A.C. et al., "A Primer-Guided Nucleotide Incorporation Assay in the Genotyping of Apolipoprotein E," <u>Genomics</u> 8:684-692 (1990)			
___ CR	Taylor, M.R. et al., "Cloning and sequence analysis of human butyrophilin reveals a potential receptor function," <u>Biochimica Biophysica Acta</u> 1306:1-4 (1996)			
___ CS	Thiede, C. et al., "Simple and sensitive detection of mutations in the ras proto-oncogenes using PNA-mediated PCR clamping," <u>Nucl. Acids Res.</u> 24(5):983-984 (1996)			
___ CT	Vernet, C. et al., "Evolutionary Study of Multigenic Families Mapping Close to the Human MHC Class I Region," <u>J. Mol. Evol.</u> 37:600-612 (1993)			
___ CU	Wagner, R. et al., "Mutation detection using immobilized mismatch binding protein (Muts)," <u>Nucl. Acids Res.</u> 23(19):3944-3948 (1995)			
___ CV	Walker, G.T. et al., "Isothermal in vitro amplification of DNA by a restriction enzyme/DNA polymerase system," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 89:392-396 (1992)			
___ CW	Wallace, R.B. et al., "Hybridization of synthetic oligonucleotides to $\phi$ X174 DNA: the effect of single based-pair mismatch," <u>Nucl. Acids Res.</u> 6:3543-3557 (1978)			
___ CX	Worwood, M. et al., "Alleles at D6S265 and D6S105 define a haemochromatosis-specific genotype," <u>Brit. J. Haemat.</u> 86:863-866 (1994)			
___ CY	Wu, D.Y. et al., "The Ligation Amplification Reaction (LAR)-Amplification of Specific DNA Sequences Using Sequential Rounds of Template-Dependent Ligation," <u>Genomics</u> 4:560-569 (1989)			
___ CZ	Yanofsky, C. et al., "Repression is Relieved Before Attenuation in the trp Operon of <i>Escherichia coli</i> as Tryptophan Starvation Becomes Increasingly Severe," <u>J. Bacteriol.</u> 158(3):1018-1024 (1984)			
___ DA	Youil, R. et al., "Screening for mutations by enzyme mismatch cleavage with T4 endonuclease VII," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 92:87-91 (1995)			
___ DB	Yu, C-E. et al., "Positional Cloning of the Werner's Syndrome Gene," <u>Science</u> 272:258-262 (1996)			
EXAMINER		DATE CONSIDERED		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.